3. **Revisions to the North American Numbering Plan** -- The Commission is currently revising the North American Numbering Plan. Such revisions are expected to lead to new guidelines that will increase the availability of number resources to a wide range of entities increasing the competitive opportunities for switching services. Such action should be accompanied by a corresponding adjustment to the price cap rules. The adjustment would augment the pricing flexibility of the switching service category by increasing the lower pricing limit from five percent to fifteen percent.

Each event listed above reduces the barriers to competition. As such, the need for stringent pricing controls within the price cap rules to insure that prices selected by LECs fall within the zone of reasonableness diminishes. The increased competitiveness of the marketplace, while not fully replacing price cap regulation, operates as a constraint on LEC pricing. The pricing limits in the price cap rules should be adjusted accordingly. Failure to adjust the price cap rules is tantamount to forcing price cap LECs to price inefficiently. It will maintain artificially high prices and create a price umbrella. Such a price umbrella does little else than encourage inefficient entry and create an artificial industry structure based on an inefficient pricing structure. It hardly is a means to effective competition.

If the Commission refuses to provide the additional downward pricing flexibility suggested by BellSouth, competitors receive an immediate benefit. That benefit, however, comes at the consumers' expense. The Commission's procompetitive policies are intended to promote competition and not competitors. Given price cap regulation's continued limitation on upward pricing flexibility and the additional competitive constraints created by the Commission's actions, additional downward pricing flexibility would merely allow the type pricing decisions that would occur in a fully competitive environment--the very outcome that regulation seeks to replicate.

Ultimately, effective competition will develop. In response to Transition Issue 1b, BellSouth discussed the criteria by which the Commission should determine the presence of effective competition. Effective competition should be accompanied by streamlined regulation. Based on the criteria discussed above, BellSouth proposes that streamlined regulation for a specific service or set of services would be implemented upon a showing by the LEC that the services are subject to effective competition.[156]

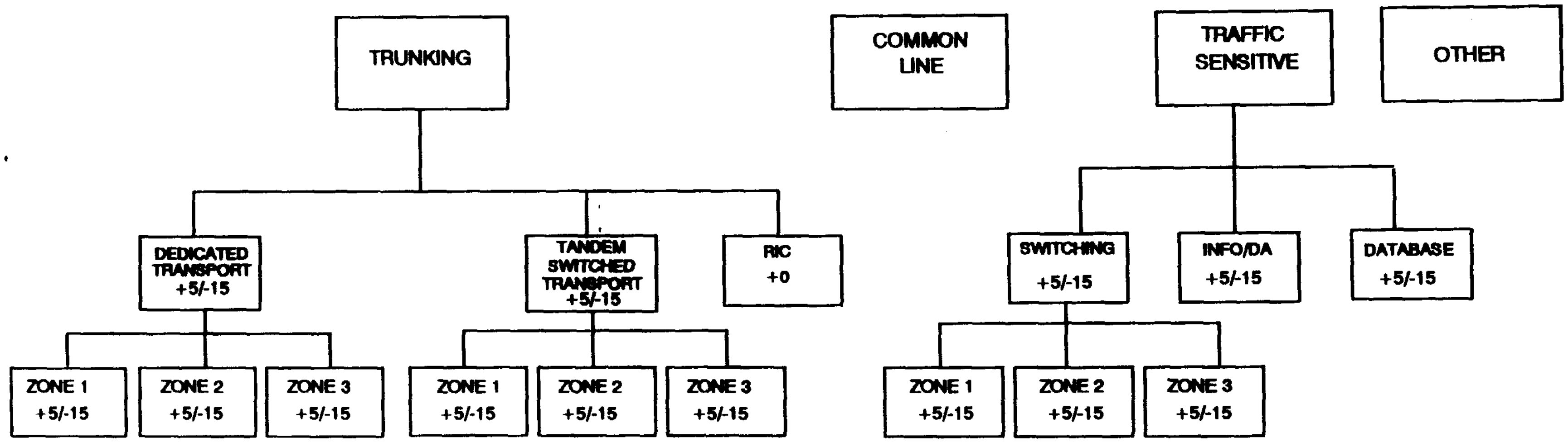
Streamlined regulation would enable the LEC to remove the competitive services out from under price cap regulation. For such services, all tariff filings, including new services, would be presumed lawful and would be subject to a reduced notice interval. The tariffs would contain the terms and conditions applicable to the services and would set forth the range of rates applicable for the service.

Because streamlined services would no longer be subject to price cap regulation, it would be appropriate to take this into account in the calculation of the indices. While services may be streamlined at any time during the year, BellSouth proposes that the relevant price cap indices be adjusted twice a year (January 1 and July 1) for streamlining.[157] At these times, the API for the relevant basket would be recalculated to reflect the removal of the streamlined services. After recalculating the API, the indices would be reinitialized at 100.

156/ For example, based on the criteria proposed by BellSouth, video dialtone services would immediately qualify for streamlined regulation in those areas where existing cable systems have their own or use non-LEC provided transport facilities.

157/ Under the current price cap rules indices are recalculated once a year. Such an approach would be equally workable (and indeed simpler) to take into account streamlining.

TRANSITIONAL BASKET STRUCTURE



NOTES:

1. AS MARKETS BECOME COMPETITIVE, THEY SHOULD BE MOVED OUT OF PRICE CAPS. SUCH MARKETS SHOULD BE DEFINED ON A SERVICE AND/OR GEOGRAPHIC BASIS.

2. MARKETS MAY BE REMOVED FROM PRICE CAPS (PER NOTE 1) AT ANY TIME DURING THE YEAR. ON A SEMI-ANNUAL BASIS, THE API SHOULD BE RECALCULATED FOR THE MARKETS THAT HAVE BEEN REMOVED.

Transition Issue 3: Revisions to Baskets

Whether and how the Commission should schedule revisions in the composition of price cap baskets as local exchange access competition develops. Should the Commission adopt a set of procedures that would rebalance baskets in response to specified changes in market conditions?

BellSouth believes that its proposal for revising the current structure of price cap baskets and bands will provide a workable framework as competition evolves, provided that the FCC maintains a primary focus on reducing regulation to accommodate competition.[158] In response to Transition Issue 2, BellSouth proposed a specific course of action that the Commission should follow to maintain a balance between regulation and competition. As barriers to competition are reduced, regulation should correspondingly be relaxed. Streamlined regulation should ensue from the presence of effective competition.

Transition Issue 4: Service Quality, Network Reliability, and Infrastructure

Whether and how the commission should revise its monitoring of LEC service quality, network reliability and infrastructure as part of any transition plan.

Please see earlier responses to baseline issues.

Transition Issue 5: Frequency of Review Under Price Cap Regulation

When should the Commission next review the price cap LECs' performance? How frequently should the Commission conduct subsequent reviews?

The Commission is rightly sensitive to the possibility that frequent review of the LEC price cap plan will undermine price cap efficiency incentives.[159] As Strategic Policy Research has observed, the prospect of rate reductions when the price cap plan is

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[158] In response to Baseline Issue 2, BellSouth has proposed changes in the composition of the baskets for the purposes of making the price cap plan more efficient. Such changes need to be made irrespective of the level of competition.

[159] Notice at 42, ¶ 99.

renegotiated reduces efficiency incentives from the start, and discourages carriers from making the types of profound systemic new technology and infrastructure changes that price caps seek to promote.[160] The Commission consequently can expect a significant tradeoff between the magnitude of LEC efficiency gains vs. the frequency of review of the price cap plan.

BellSouth recommends that the Commission seriously consider adopting a longer-term review period in the 8-10 year range in order to maximize LEC efficiency incentives. Shorter periods needlessly jeopardize the proper functioning of the price cap plan.

V. CONCLUSION

The Commission has an historic opportunity to make a strong and lasting contribution to the nation's economic and social welfare as it encourages the buildout of the NII. What is required to achieve this goal has been summarized cogently by Professor Harris, i.e., "a set of adaptive and flexible policies that facilitate balanced competition, that promote efficiency and innovation, and that provide appropriate incentives for investment."[161] The adoption of a pure price cap regime as BellSouth has proposed will achieve these objectives.

In a recent speech last week, Chairman Hundt remarked that "[i]n building our communications networks, no other country in the world is trusting in private industry and competition to the degree we are."[162] This observation captures the essence of the theory

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[160] SPR Vision Paper at 19.

[161] Harris Report at 2.

[162] Address of Chairman Reed E. Hundt to the National Press Club (May 2, 1994).

of price cap regulation. The Commission's trust in private industry to build the NII will be well-placed if the Commission provides the appropriate incentives and regulatory flexibility necessary to realize the goal. BellSouth therefore urges that the Commission adopt the price cap plan revisions set forth above.

Respectfully submitted,

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Comments on "Transition Issues"

In the Matter of Price Cap Performance Review for Local Exchange Carriers

(CC Docket No. 94-1)

John Haring

Jeffrey H. Rohlfs

Prepared for BellSouth

April 19, 1994

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Comments on "Transition Issues"
In the Matter of Price Cap Performance Review for Local Exchange Carriers
(CC Docket No. 94-1)

John Haring
Jeffrey H. Rohlfs[1]

I. Introduction

The Commission, in its Notice,[2] remarks the close connection between its primary method of regulating LECs (price caps) and deployment of national telecommunications infrastructure (NTI). The Commission hopes that the NTI will be capable of providing rapid distribution of information, stimulating domestic economic growth and international competitiveness, and expanding job opportunities for Americans. The Commission also notes that issues which affect the LEC price cap review overlap with other Commission proceedings, as well as with other regulatory reform proposals already developed. In making these observations, the Commission has, in our view, properly conceptualized the broad frame within which its review and potential revision of the price cap regime for LECs is likely to prove most beneficial to the public interest.

Regulation "matters," in general, for economic welfare. LEC price caps matter, in particular, in terms of the extent to which the United States will possess an economically efficient telecommunications infrastructure as the millennium approaches. Indeed, we are hard-pressed to think of any other single *regulatory* proceeding (before the Commission) that is as significant as LEC price caps when it comes to efficient deployment of advanced communications

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[1] John Haring and Jeff Rohlfs are principals in Strategic Policy Research, Inc., an economics and telecommunications policy consulting firm located in Bethesda, Maryland. Dr. Haring formerly served as Chief Economist and Chief, Office of Plans and Policy, at the Federal Communications Commission. Dr. Rohlfs was formerly Department Head of Economic Modeling Research at Bell Labs. Copies of current curriculum vitae are attached.

[2] *In the Matter of Price Cap Performance Review for Local Exchange Carriers*, CC Docket No. 94-1 (February 16, 1994).

technologies and maintenance of a policy framework conducive to efficient competition.[3] These views notwithstanding, our analytical focus in this submission is fairly narrow, dealing with the matters the Commission has designated as "Transition Issues" (1, 2 and 3) in its Notice. We believe that the manner in which the Commission deals with these issues has critical importance for achieving the Commission's overarching policy goals. *Resolution of these transition issues has important implications for many of the broader baseline issues the Commission has identified.*

One of the primary reasons regulation is important is that it affects prices. Prices, in turn, affect economic incentives — incentives to economize, to invest, to relocate, to enter or exit from a market, to compete, to expand, to change suppliers and so on. For these reasons, the Commission needs to get the pricing right for the telecommunications services it regulates (actually, to adopt policies that allow market forces, to the extent they can be reasonably relied upon, to get the pricing right). Failure to get the pricing right would lead to three highly adverse consequences: (1) national wealth will be diminished; (2) incentives to invest in NTI will decline; and (3) the public benefits usually associated with competition will be reduced. Indeed, if regulators get the pricing wrong, competitive rivalry may amplify the harms resulting therefrom.[4]

In this submission, we outline an approach to competitive metric issues. We think it is intellectually defensible and will prove fruitful in terms of the Commission's promoting an efficient structure of prices. Efficient pricing is a *sine qua non* for efficient infrastructure development and a fully-productive economy.

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3 Price caps not only provide a potentially powerful means for strengthening incentives to invest and deploy new technological capabilities, but also supply a highly credible safeguard against anticompetitive cross-subsidization. As Professors Braeutigam and Panzar have noted, under price-based regulation (*i.e.*, price caps), incentives to manipulate cost allocations and choose an inefficient technology "simply disappear," since prices do not depend on cost allocations. *See* "Diversification Incentives Under 'Price-Based' and 'Cost-Based' Regulation," *The RAND Journal of Economics* (Autumn 1989), XX, pp. 373-391. The incentive and safeguard effects under price caps are greatest if the plan has a long term and no sharing mechanism. *See* Strategic Policy Research, Inc., *Regulatory Reform for the Information Age: Providing the Vision,* January 11, 1994.

4 For a European view that this is largely what has been happening in the U.S. telecommunications industry, *see* Bernhard Wieland, "Problems of Gradual Deregulation — What Can European Authorities Learn from U.S. Telecommunications Policy?," Deutsche Bundespost Diskussionsbeitrage zur Telekommunikationsforschung Nr. 9/August 1984.

Discussions of the appropriate degree of pricing flexibility frequently confound two conceptually separable issues — the analytically relevant metrics (or standards) for pricing flexibility, narrowly defined, and the analytically relevant metrics (standards) for deregulation, broadly defined (including reduced or streamlined regulation).[5] We recommend adopting different metric standards for different types of relief.

In particular, we demonstrate that the metric standards relevant for delimiting allowed pricing flexibility within a zone of reasonableness are *invariant* with respect to the degree of competitiveness or market contestability. Thus, regulated firms' flexibility to price reasonably should not depend on the existence of effective competition, however defined. The degree of competition *is*, however, relevant to a determination of whether, or the extent to which, regulatory processes are needed to ensure that prices will lie within the zone of reasonableness, properly gauged.

Our comments are organized as follows: We begin our discussion with the question of appropriate pricing flexibility. As we have suggested, that does not turn on the degree of competition. We then address the question of regulatory streamlining. That issue does depend, in part, on the effectiveness of competition (though we contend that regulation of discretionary services and new services should also be streamlined).[6] In discussing streamlining, we describe the comparative abilities and disabilities of several different approaches to measurement of competition's effectiveness. We conclude with a brief discussion of several of the specific policy questions the Commission has posed in Section D of its Notice.

[5] Under streamlined regulation, conventional regulatory strictures and proscriptions apply, but carrier tariff filings can be made on abbreviated notice and are presumed to be reasonable in the absence of convincing evidence or compelling argument to the contrary. Under streamlining, market forces, not regulatory procedures, are relied upon to ensure reasonable prices.

[6] *See Regulatory Reform for the Information Age: Providing the Vision.*

II. Pricing Flexibility

The position of LEC competitors on the question of LEC pricing flexibility can be simply summarized: They contend that it is not good policy to provide LECs with substantial flexibility to rebalance rates *before* the existence of effective competition.[7] The (implicit) premise of this argument is that pricing flexibility in the absence of effective competition will lead to unacceptable pricing (*viz.*, inefficient, exclusionary, monopolistic, *etc.*).[8] This argument confounds two separable issues: the appropriate standards for pricing flexibility and the comparative efficacy of market forces versus regulatory controls as means for ensuring that the relevant standards are satisfied.

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[7] For example, *see* Hyperion Telecommunications, Inc. (Petition for Reconsideration, Transport Phase 1), CC Docket No. 91-141:

- "The rules adopted by the Commission provide local exchange carriers unwarranted pricing flexibility given the level of competition for switched transport that presently exists or will exist in the foreseeable future." (p. 1)
- "Specifically, the *Switched Transport Order* provides LECs with additional pricing flexibility *before* the existence of effective competition." (p. 2)
- "The Commission should grant additional pricing flexibility only after it determines that a market is competitive and only if it imposes certain restrictions, as outlined below." (pp. 2-3)
- "Hyperion believes that this flexibility to reduce rates should not be granted until the LEC can demonstrate that effective or meaningful competition exists in the market in which it proposed to offer density zone pricing or volume and term discounts." (p. 4); and

Association For Local Telecommunications Services (Petition for Reconsideration, Transport Phase 1), CC Docket No. 91-141:

- "Furthermore, the undisputed facts on the degree of competition means [*sic*] that the Commission could not rationally find that the any [*sic*] local exchange market would be sufficiently competitive at the time that the *Second Report*'s trigger points were reached to justify additional pricing flexibility for the LECs." (p. 3)
- "Permitting LEC pricing flexibility before competition is well-established risks eliminating competition altogether and sanctions unreasonable pricing discrimination." (p. 3)
- "Nowhere . . . has the Commission discussed, much less dissected, either the question of when competition in a given area has reached the decisionally-significant level, or what the effects of flexibility in the context of the new collocation arrangement might be in terms of either inhibiting or promoting competition." (p. 6)

We note that current regulations in many cases actually *compel* carriers to price services at economically inefficient levels. In open markets, not affording carriers the flexibility to restructure their rates simply supplies entrants with a price umbrella under which to expand their operations and profits. The ability of entrants to exploit artificially inflated profit opportunities says little about the sustainability of self-policing competition.

[8] Our own view is that this premise is false and that competitive rivalry cannot be vigorous *without* reasonable pricing flexibility. It is, in our view, almost literally nonsensical to argue that, to have effective competition, you must prohibit vigorous competitive rivalry.

In our view, the appropriate degree of pricing flexibility does not turn on the degree of competition. The degree of competition is relevant for determining whether, or the extent to which, regulation is needed to ensure that prices will lie within the zone of reasonableness. The zone of reasonableness within which pricing flexibility is properly afforded is itself defined by price floors measured in terms of long-run service incremental costs and by price ceilings measured in terms of stand-alone costs.

In an effectively competitive market, rates will normally be constrained by competition (including the credible threat of competition) to fall with this zone of reasonableness. In the absence of effective competition, rates will not necessarily fall within the zone of reasonableness and regulations may be implemented to ensure reasonability.[9] Such regulations may take a variety of forms: price caps, resale requirements, general availability requirements, imputation requirements, tariff filing requirements, earnings reporting requirements and so on. The important point is that *the standards of reasonability are not themselves a function of the specific means utilized to ensure that the standards are met.*

Regulation should be streamlined (as defined in footnote 5) or eliminated only if market forces can be expected to ensure reasonable prices in the absence of regulatory controls. That, in turn, depends on a variety of considerations (*e.g.,* the elasticity of market demand, the degree of competitive rivalry, conditions of market entry and exit, resource mobility, *etc.*). The question that is raised by the issue of appropriate pricing flexibility is whether the zone of reasonableness has been accurately specified and particular prices lie within it. Efficient pricing within a properly defined zone of reasonableness can be the result of *either* market forces *or* effective regulation.

It makes no sense to argue that firms can be afforded the flexibility to price efficiently within a properly defined zone of reasonableness *only if* there is competition — obviously regulated firms should be afforded the same flexibility — if they are not, they cannot mimic competitive performance. Alternatively, insisting that regulated firms price *inefficiently* to afford

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9 Of course, in the Twilight Zone that is "the real world," regulation does not always, or perhaps even generally, constrain prices to fall within a zone of reasonableness; instead it often *compels* regulated firms to charge rates that fall outside the zone of reasonableness. Such pricing becomes completely untenable as competition becomes pervasive.

new entrants profitable opportunities for expansion invites overexpansion and creates a moral hazard.[10] Yet this is, in fact, precisely the position that CAPs are espousing — until competition develops more fully, LECs should be compelled to maintain a price structure that supplies CAPs with profitable opportunities for output expansion.[11]

In economic terms, the purpose of regulation is generally conceived as replication of the economically efficient results effective competition would produce if operative. The general configuration of those results can be formally stated as conditions that efficient rates will satisfy. The statement of those conditions constitutes an economically informed specification of the boundaries of the zone of reasonableness. As noted earlier, those theoretically grounded boundaries do not "depend" on competition — competition is but one, albeit a generally effective, method for ensuring that prices fall within the boundaries.[12] A firm operating in a competitive market cannot price outside the zone of reasonableness. The threat of competitive punishment deters such behavior.[13] Economic analysis suggests that *regulated* firms should also

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[10] Protection from competition reduces pressure to operate prudently and efficiently. How does the government protect itself from becoming a hostage to the incompetence or opportunistic behavior of its wards? If the government is going to protect competitors, how does it insure against sloth, dishonesty and recklessness? If competitors are shielded, what incentives do they possess to avoid error and improve their performance?

[11] Andrew Lippman, speaking for MFS, recently stated that he would be "comfortable" with deregulation when CAP market shares had reached 30 to 40 percent. *See Telecommunications Reports* (2/21/94, p. 3). We are sure he would be! However, the essence of truly effective competition is that it causes *dis*comfort to individual competitors. Requiring incumbents to cede 30-40 percent of their markets to entrants would, in reality, be highly anticompetitive and have three principal adverse impacts: (1) consumers will be harmed by a lack of genuine price competition; (2) false price signals will encourage uneconomic resource deployment; and (3) little probative information about the genuine effectiveness or sustainability of competition would be produced under a handicapped regime. Pricing flexibility within a zone of reasonableness should not depend on the existence of a jerry-built distribution of market shares favored by particular competitors. Pricing flexibility within a zone of reasonableness is necessary both to permit vigorous competitive rivalry and to discover how competitive the equilibrium industry structure actually is.

[12] In formal terms, competition increases the elasticity of demand facing the firm. That, in turn, increases the penalty (in terms of lost sales) from raising prices above costs. In some markets (*e.g.*, for discretionary services), market demand may be very elastic, even in the absence of competition. Market forces may then prevent prices from rising far above costs — without either competition or regulation.

[13] Pricing below relevant costs precludes cost recovery; pricing above competitive levels precludes sales. In the simple textbook models of perfectly competitive markets for undifferentiated products produced under conditions of constant or increasing returns to scale, individual firms possess literally no pricing discretion. In many effectively- or workably-competitive, real-world markets, where there are significant economies of scale and scope and

(continued...)

be afforded substantial scope for pricing flexibility *within an appropriately defined zone of reasonableness*. The relevant zone is precisely the same as that within which firms operating in competitive markets exercise pricing discretion.

A. Zone of Reasonableness[14]

In markets where there are significant economies of scale and scope, efficient pricing depends on *both* the structure of costs and demands for different services. In such markets marginal-cost pricing implies bankruptcy, so prices must depart from marginal costs to recover total costs. Information about the state of demand and pertinent demand relationships can, in principle, be used to gauge departures from marginal-cost pricing so as to maximize economic welfare. Unfortunately, the regulator generally cannot discover and process sufficient information about changing conditions of demand in a timely and efficient manner. Consequently, he or she must rely substantially upon the regulated firm's self-interest in taking account of relevant demand conditions in setting prices.[15] Such reliance does not translate into a policy of "anything goes;" instead it entails the specification and enforcement of constraints which define a zone of reasonableness within which pricing flexibility may be legitimately and beneficially exercised.

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[13](...continued)
products are differentiated, firms typically exercise greater pricing discretion. In markets of this type, perfect contestability requires Ramsey (*i.e.*, quasi-optimal) pricing, which entails consideration of the direct and cross-price elasticities of demand the firm confronts, in setting prices. As elasticities change, firms need and are normally afforded sufficient flexibility to adjust as a condition for maintaining quasi-optimal pricing.

[14] For a full elaboration of the analysis presented herein, *see* William J. Baumol and J. Gregory Sidak, *Toward Competition in Local Telephony* (MIT Press and American Enterprise Institute, 1994).

[15] As Baumol and Sidak (p. 54) note:

> Although the demand information available to management is highly imperfect, it seems likely that management will have a better and more up-to-date estimate of demand conditions than the regulator, who is so much further removed from the marketing firing line. In short, the firm can generally be taken to have superior information about demand and to have some considerable incentive to adapt its prices to demand conditions in roughly the manner that best serves the public interest. In this imperfect world, with its persistently incomplete and inaccurate demand information, this is probably the best that can be hoped for.

The price ceilings and floors that define an economically appropriate zone of reasonableness are derived from norms implied by the behavior of firms operating under idealized conditions of competition. In such "perfect" conditions, firms could never set a price that an efficient competitor could beat because, if they did, the competitor would. Similarly, a firm could never hope to make up the loss associated with setting a price below cost; making up the loss would entail setting a price an efficient competitor could, and indeed would, beat under assumedly perfect conditions. The effect of setting and enforcing such competitive norms is to compel competitive behavior even where such behavior would not automatically result under prevailing market conditions.

As noted earlier, LEC competitors fear that LECs will be afforded more pricing flexibility than prevailing competitive conditions warrant. Under the economic approach we espouse, LECs would be afforded *precisely* the pricing flexibility that fully competitive conditions warrant. If the market is actually effectively competitive, regulatory controls will prove redundant. If the market is not actually effectively competitive, constraining prices to fall within the zone of reasonableness will produce competitive results.

We note, parenthetically, that the fear of LEC competitors is perhaps more accurately characterized as that LECs will be compelled or allowed to charge economically *efficient* rates, thereby making competition with LECs more difficult. In the absence of price umbrellas produced by a variety of regulatory price-averaging and cross-subsidy policies, competition will necessarily be founded on genuine advantages in productive capabilities and comparative abilities in discerning and meeting customer demands. If regulated carriers are compelled to average rates over high and low cost areas or business segments, it does not take a genius to discern that the low cost areas or segments, *alone*, can be served profitably at a lower rate, or at some combination of a lower rate and a more highly valued offering.[16] The relevant policy question is whether competition in these circumstances is *purely* an artifact of such price handicapping and, therefore, efficiency-reducing. The best way to find out is to get rid of these kinds of handicaps.

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[16] High-cost market segments where prices are suppressed below efficient levels will be less attractive targets for entry. Thus, uneconomic price averaging policies, in general, involve both artificial suppression of and inducement to competition in different areas.

A zone of reasonableness may, of course, be improperly defined or incorrectly calculated. In that case, the regulated firm may be afforded too little or too much flexibility in setting prices. This is, however, true for any floor-ceiling approach. Our recommended approach at least focuses attention on economically relevant concepts of costs for definition of price ceilings and floors. Measurement errors are, therefore, likely to be less serious compared to other approaches that focus on economically irrelevant and suspect conceptions and measures of costs.

B. Price Floors

Price floors are intended to ensure that prices cover relevant costs. Prices above such floors do not encourage wasteful usage (*i.e.*, usage whose value is less than that of the resources required to produce the output) or preclude competition by efficient competitors. Competitors typically express fears that incumbents, if afforded "too much" flexibility, will be able to exclude competitors through predatory pricing or systematic cross-subsidization. There is, of course, an especial irony associated with the cross-subsidization argument applied in the instant context; both historically and currently, telephone pricing, far from uniformly discouraging competitive entry, has actually encouraged entry by inflating rates for long-distance access and long-distance services above efficient levels. Inflated rates for these services have permitted prices for politically sensitive services to be maintained at levels lower than would prevail under effective competition.

To encourage efficient competition, a price floor should balance two different types of losses. One type of loss occurs if efficient price cutting is not permitted. The other occurs if inefficient (predatory) price cutting is permitted. If a relatively high price floor is established, losses of the first type are more likely to occur and losses of the second type are less likely to occur. If a low floor is established, losses of the second type are more likely and losses of the first type are less likely. The economically optimal floor is one which just balances expected losses of either type.

The basic economic rationale for a cost-based price floor is as follows: A profit-maximizing firm would rarely maintain, in the absence of regulatory compulsion, a price below cost for any sustained period for reasons other than predation. A price below cost sacrifices profit, and profit-seeking firms do not sacrifice profit without reason. Exclusion of competitors is potentially a reason to price below cost. However, in an idealized market in which entry could occur frictionlessly, sacrificing profit to exclude competitors in hopes of eventually earning high(er) profits would not make sense. Any attempt to exercise market power at some later time would simply prompt entry and could, therefore, never succeed.[17] A cost-based price floor also insures against cross-subsidization because any price which covers cost generates a contribution, while any price which fails to cover cost requires a contribution if costs are to be fully recovered. Finally, a cost-based floor will generally not exclude entry by efficient competitors (*viz.*, firms with equal or lower costs) and, for this reason, is often regarded as striking a reasonable balance in terms of the potential losses described above.

Incremental cost is the appropriate cost measure for establishing a cost-based price floor. Incremental cost measures the change in cost for a specified change in output. For a single-unit change in output, incremental cost is marginal cost. Typically, for operational implementation, an average incremental cost measure is utilized as a reasonable approximation for incremental cost. When economies of scale exist, as they typically do in the instant setting, average incremental costs decline as the volume of planned output increases. This implies that marginal costs will be less than average incremental costs, although the difference may be small if costs decline slowly. When costs decline over the relevant range of outputs, the higher, average incremental cost measure constitutes the appropriate floor.[18]

C. Price Ceilings

In the preceding section, we noted the basic rationale for a cost-based price floor: a profit-seeking firm would rarely voluntarily, and usually only inadvertently, price below relevant

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[17] Nor could such a tactic succeed under a pure price cap which effectively prevents monopolistic price increases.

[18] Baumol and Sidak (pp. 64-68) explain that *both* marginal and average incremental costs constitute legitimate floors and that, in any particular setting, it is the higher of the two that properly governs.

costs except for reasons of predation. The basic rationale for a cost-based price ceiling is similar: In an idealized environment in which frictionless entry is feasible, a profit-seeking firm would rarely voluntarily, and usually only inadvertently, price above the costs of potential entrants. Such behavior would simply reduce profitability by promoting competitive entry.

Note well that selective competitive entry into different segments of the local telecommunications business is itself highly probative evidence of the economic *un*reasonability of current rates. Selective entry in market segments with high traffic density implies that regulators interested in promoting an economically efficient rate structure should not just *allow* incumbents confronted with competitive entry to rebalance their rates and, in particular, to adjust their rates in contested segments downward; they should *compel* them to reduce rates. Indeed, any regulated price structure that attracts selective entry is *demonstrably* inefficient. There is no need to wait for some future competitive trigger to be pulled in order to justify price reductions where entry has occurred. Selective entry should, itself, be the competitive trigger. Rate reductions should be allowed even before competitive entry occurs.[19] This is simply a logical implication of the view that the regulator's task is to mimic competitive performance where competitive forces are not sufficient to produce such performance by themselves.

In reality, selective entry into different segments of the local telephone business is hardly disclosing any great, new, earth-shattering news; it is merely confirming what has been conventional wisdom for quite a long time: The structure of rates in telephony has been specifically and consciously designed so as *not* to produce an economically efficient rate structure; rather, to charge some users and uses higher rates so that other users and uses can pay lower rates. That kind of rate structure is only viable in the absence of competition. As competition is permitted

[19] In its Petition for Reconsideration, CC Docket 91-141, Hyperion Telecommunications, Inc. (p. 9) argues that: "If a LEC reduces rates in the competitive zone pursuant to a density zone pricing plan, the LEC should also be required to limit the scope of any discount pricing plans to the competitive zone." Contrary to Hyperion's assertion, the structure of prices in a competitive market should, if anything, be replicated in noncompetitive ones. (This was precisely how the FCC determined what cable prices should be charged in noncompetitive cable markets.) It would seem that Hyperion's position is that incumbents *must price inefficiently* unless there is competition (*i.e.*, efficient pricing is permitted *only* where there is competition). It may be that the Commission, to avoid a thorough-going rebalancing of rates and the possibly adverse political and social consequences thereof, may wish merely to *permit* rather than *require* repricing in currently uncontested markets.

and actually occurs, inflated rates for overcharged customers cannot be sustained. Hence, deflated rates for undercharged customers cannot be sustained either.

Stand-alone cost is the appropriate cost measure for establishing a cost-based price ceiling. Stand-alone cost is the cost (including the cost of capital) that an efficient entrant would incur in supplying a product. While stand-alone costs can be estimated,[20] removal of barriers to competition supplies a practical means to insure against prices that exceed stand-alone costs. The closer that actual circumstances come to ideal, the greater the extent to which the credible threat of competition will constrain pricing behavior. As noted above, selective entry provides highly compelling evidence that rates in many cases have been set too high. By the same token, lack of entry in the absence of entry barriers and assuming enforcement of pricing flexibility within the appropriate zone of reasonableness provides probative evidence that rates are not excessive.

D. Synopsis

We have argued that regulated firms operating in markets that are less than effectively competitive should be afforded the same degree of pricing flexibility as firms operating in fully effectively competitive markets. Indeed, they must be afforded this degree of flexibility in order to approximate efficient competitive outcomes. The economically appropriate zone of reasonableness for pricing flexibility is delimited by pricing floors and ceilings defined in terms of average incremental (/marginal) costs and stand-alone costs, respectively. While competition will affect the prices that firms actually select, the zone of reasonableness for pricing flexibility is itself invariant with respect to the degree of competition. The zone of reasonableness is defined in terms of norms based on competitive behavior under idealized conditions of competitive perfection.

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[20] Stand-alone cost equals total cost less the cost savings that would accrue from *not* providing any services other than the service in question. For example, suppose that the telephone company provides local service, long-distance services (including long-distance access), and ancillary services. The stand-alone cost of local service is total cost of the firm less the cost savings from *not* producing long-distance and ancillary services. The cost savings equal the incremental costs of the remaining services (long-distance and ancillary services), considered together. These incremental costs naturally include all directly-attributable costs of long-distance and ancillary services. They also include all costs that are common to long-distance and ancillary services but not to local services. The relevant incremental costs can be estimated using standard techniques for estimating incremental costs.

Effective competition ensures that these reasonableness norms will be satisfied in actual operating conditions. That is not surprising, since behavior under fully effective competitive restraint is the analytical basis upon which the norms are defined. Satisfaction of these norms in the absence of effective competition may require regulation.[21] Regulation may also be necessary to cope with other problems with which regulators need to be concerned in the absence of effective competition. To these issues we now turn.

E. Regulation

Before considering the issue of enforcement, we note that pricing within an appropriately defined zone of reasonableness does not necessarily obviate all regulatory concerns about the regulated firm's pricing. A firm may price within the zone of reasonableness, as we have defined it, and its prices might still be unreasonably discriminatory or permit an anticompetitive price squeeze to be effectively implemented. Either of these concerns would be obviated by the existence of effective competition. However, in its absence, various additional regulatory controls may be needed. For example, to prevent unreasonable discrimination, the regulator may insist that offerings be generally available to all similarly situated customers and that resale of a carrier's offerings be permitted. To enforce such proscriptions, the regulator may require that tariffs be filed, entertain various complaints and petitions and impose penalties and sanctions. Similarly, regulation may be necessary to prevent an anticompetitive price squeeze. Suppose that the regulated carrier provides inputs to both itself and its competition. The regulator may insist upon some form of imputation in computing prices of its own competing final-good outputs.

We turn now to the issue of appropriate means for enforcing price setting within the zone of reasonableness we have described. We begin by noting that large LECs are required to offer services under tariff, that the FCC may review tariff filings on its own initiative or in response to complaint, that the FCC may solicit or require submission of support materials to enable it to evaluate tariff filings and that the Commission may reject tariffs or suspend them pending the

[21] However, as previously noted, market forces can ensure the reasonableness of prices for discretionary services in the absence of regulation. Regulation of new services discourages innovation and may do more harm than good.

results of its investigation of their relative merits. All of these powers equip the Commission with ample means to enforce pricing within a zone of reasonableness.

Under current practice, tariff filings which meet the constraints of the Commission's LEC price cap plan are presumed to be reasonable. Under this regime, LEC product offerings are aggregated into service baskets and the average of the prices of the items in each basket is required not to exceed a price-cap ceiling. Ceilings are adjusted annually for the following factors: price inflation, a variety of exogenous factors, a productivity factor reflecting productivity advance anticipated on the basis of historical experience and a consumer productivity dividend reflecting productivity advance anticipated on the basis of enhanced incentives under price-cap regulation. In addition, fairly tight pricing bands limit the rates at which individual prices may be adjusted *and still retain the presumption of reasonableness.* Carriers, in theory, may exceed the pricing bands, but must show substantial cause, in the case of rate changes above applicable bands, or demonstrate that rates cover the service category's average variable cost, in the case of rate changes below the applicable bands. The Commission (¶15) observes in its Notice that such filings "carry a heavy burden of justification and a strong likelihood of suspension." Such rate changes are thus, from a practical perspective, plainly discouraged.

Under the existing regulatory regime, tariffing regulations and price cap ceilings applied to a number of separate service baskets provide the fundamental means for guaranteeing that rates fall within a zone of reasonableness. The fact that carriers must disclose their rates, that rates must meet economically relevant standards, or (if they fail) may be suspended or rejected, is what makes for reasonability in the absence of effective competition. Effective competition would render all of these means of guaranteeing reasonability redundant and would also mitigate the need for the other regulatory controls briefly alluded to earlier.

As previously noted, under current practice carriers are afforded limited flexibility to adjust individual rates within narrow pricing bands. In practical terms, these constraints serve to soften the edges of change, while affording carriers a modicum of discretion to adjust to changes in market conditions. Unfortunately, in many cases we obviously are not starting from a position of reasonability — current prices are way out of line with what might be construed as economically reasonable. As we have noted, the fact of selective entry provides evidence that current rates for some services are too high from an economic standpoint. In these circumstances, affording carriers only limited discretion to lower their rates or, alternatively, insisting that they run a full-scale regulatory tariffing gauntlet, in essence, serves mainly to provide entrants with a protective pricing umbrella under which to expand.

In recent months the FCC has begun to backslide with regard to granting pricing flexibility to the LECs. For example, the FCC has established sub-baskets for certain services. Consequently, LEC prices must now satisfy the constraints associated with these sub-baskets, in addition to the constraints in the original price-cap plan.

Reducing pricing flexibility is precisely the wrong policy, for reasons discussed above. Furthermore, the Commission reduced flexibility for precisely the wrong reasons; *i.e.*, because of pressures from competitors. The very presence of those competitors should have been the trigger for *greater* pricing flexibility — within the zone of reasonableness.

F. Recommendations

We recommend that the FCC take the following steps to increase pricing flexibility for LECs within the zone of reasonableness. Note that these recommendations are intended to increase flexibility in markets that are *not* yet effectively competitive.

1. Bands and baskets should be considered guidelines — not absolute limits on pricing flexibility. They should continue to limit what LECs can do without making detailed regulatory showings However, the FCC should facilitate filings of reasonable rates which are outside the bands and/or baskets. The FCC should also facilitate filings for geographically deaveraged rates. In such filings, the LEC would have to demonstrate that the proposed rates continue to satisfy the overall price-cap constraint and are within the zone of reasonableness.

2. The basket structure should be simplified. Ideally, there should be only a few well-designed baskets and no sub-baskets.[22]

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[22] For a fuller discussion of this proposal, *see Regulatory Reform for the Information Age: Providing the Vision.*

3. Bands should be widened to allow greater downward pricing flexibility. Given historical reliance on fully allocated cost measures in setting rates (not to mention the fact of entry), significantly greater downward pricing discretion is warranted than exists today. Exercise of such discretion would be unlikely to result in prices below the relevant floor of the zone of reasonableness given current rate levels.